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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/488,028	01/20/2000	Eric Cohen-Solal	US 000015	3849

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EXAMINER

HAILU, TADESSE

ART UNIT	PAPER NUMBER
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2173

DATE MAILED: 06/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/488,028

Applicant(s)
Eric Cohen-Solal et al.

Examiner
Tadesse Hailu

Art Unit
2173



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Apr 21, 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4, and 6-15 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, and 6-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

1. This Office Action is in response to the AMENDMENT entered April 21, 2003 for the patent application (09/488,028).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. **Claims 1, 2, 4, 6, 7, 12-15 are rejected under 35 U.S.C. 102(a) as being anticipated by Kahn et al., "Real-time Gesture Recognition with the Perseus System."**

The present invention is directed to video camera targeting systems that locate and acquire targets. Similarly, Kahn et al (Kahn) is also directed to a video camera targeting systems.

Consequently, the claimed subject matter is also disclosed by Kahn.

Regarding claim 1, Kahn discloses a method of locating an image. The method includes recognizing when and where people point to objects and identifying and locating the object pointed to (see *section 2 , the Pointing Task*). Once the object is located (via *locate method*), certain description and properties/parameters (or characteristics) information of the region (person and target location) are measured and stored in the Object Representations (OR) (see 3.3 *Object Representations*). The *locate method* then places a marker on the region parameterized

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with a tacking function. In the end the camera (Fig. 1) is directed to the sensed object. Moreover, The Perseus system (see Fig .1) is capable of sensing a triggering event, such as a pointing gesture by a human operator (see section 3.7 Figs); during a pointing task the Perseus system uses, receives or access object description information or Object representation (OR) of the person and the item being pointed to. In response to said sensing and receiving the Perseus system then locates (via camera) the person, waits for the person to point, and returns either a message describing which item was pointed to or a message saying nothing was found (see sections 3.6-4).

Claim 12 recites several similar feature as claim 1 except for “scanning and area...” and “storing information...”. Kahn further discloses these limitations. Kahn discloses the area the finger points is examined (or scanned), such as through camera, and if an object is found it is identified (see *The Pointing Task* section, and Fig. 6). As mentioned in the rejection of claim 1 above, storing the properties/parameters information of the region (target location) are measured and stored in the Object Representations (OR) (see 3.3 *Object Representations* section).

Claim 13 recites a method of aiming at a target. Kahn discloses inputting a pointing gesture indicating a direction of the target. Inputting further information of the target such as the properties/parameters (or characteristics) information of said region (target location). Directing a camera at said target using the properties/parameters information of said region (target location) and/or natural language description command (also see 3.6 *Long Term Visual memory* section).

Claim 14 recites a method of acquiring a target. Kahn, as described in the above claims, discloses inputting through sensing a gesture indicating a direction of said target (Fig. 6). Then,

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directing (or orienting) the camera (Fig. 1) with respect to said target (see 3.7 *Visual Routines* section).

Regarding Claims 2 and 7, the features of these claims are discussed in the rejection of the above claims.

Claim 4 calls for receiving speech from said human operator. Kahn teaches this limitation (see 3.6, Long Term Visual Memory).

Claim 6 calls for speech and machine sensor assisting in locating said target. Kahn also teaching that in addition to sensing a gesture indicating a direction, he also suggest the use of speech in collaboration with gesture in assisting locating a target (see sections 3.6-3.7.1).

Claim 15 calls for orienting a camera (see the rejection given to claim 14).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kahn et al., "Real-time Gesture Recognition with the Perseus System" in view of Mark Billinghamst "Put That Where?"

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While Kahn's "Real-time Gesture Recognition with the Perseus System" storing target object representations and Kahn further describes Object Representations (OR) are not static representations, the data they contain changes over time (see section 3.3). But Kahn fail to suggest that object representations including natural language description representations or voice input are stored in a table, look-up table format or in claim language "processing said voice information through a look-up table corresponding said speech to search criteria for use with at said least one sensor" is not shown. However, Billinghamhurst 's Put That Where?" stores speech information in parallel with gesture information in a look-up a table for later processing (such as searching) (table 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to incorporate the speech modality interaction stored in a table format of Billinghamhurst with gesture interaction of Kahn because the use of speech interaction in association with gesture modality will enhance Kahn's system. Furthermore as suggested by Billinghamhurst (page 61) hand gesturing and speech complement each other, and a spoken vocabulary has a more standard interpretation than gesture.

Response to Arguments

6. Applicant's arguments filed April 21, 2003 have been fully considered but they are not persuasive.

The Applicant argues that Kahn does not disclose the limitations of claim 1. In contrast to the argument Kahn does disclose the limitations of claim 1. As described in the rejection of claim

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1, the Perseus system (see Fig .1) is capable of sensing a triggering event, such as a pointing gesture by a human operator (see section 3.7 Figs); during a pointing task the Perseus system uses, receives or access object description information or Object representation (OR) of the person and the item being pointed to. In response to said sensing and receiving the Perseus system then locates (via camera) the person, waits for the person to point, and returns either a message describing which item was pointed to or a message saying nothing was found (see sections 3.6-4).

Furthermore, Applicant states that Perseus registers an object prior to being able to identify the object via the gesture. In contrast to the applicant statement, it is not required to register of an object prior to being able to identify the object via the gesture. As described in the Introduction section, "Higher level information allows Perseus to select the best visual operators for interpreting the scene in a given situation. Once the visual operators are chosen the higher level knowledge may also be used to tune them to maximize their performance." Thus, Perseus architecture takes advantage of the higher level information stored (or registered) in LTVM (knowledge about the environment), not as a requirement but as to better understand the pointing gesture and as to maximize the performance.

Conclusion

¶. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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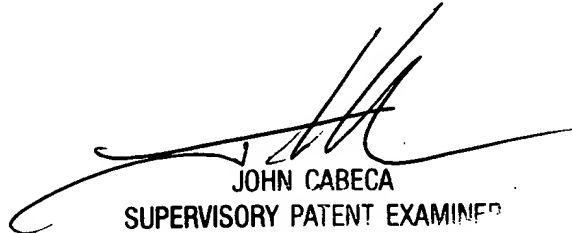
MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to *Tadesse Hailu*, whose telephone number is (703) 306-2799. The Examiner can normally be reached on M-F from 10:00 - 8:30 ET. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, *John Cabeca*, can be reached at (703) 308-3116 Art Unit 2173 CPK 2-4A51.

9. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Tadesse Hailu

June 11, 2003



JOHN CABECA
SUPERVISORY PATENT EXAMINER
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